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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/442,568	11/18/1999	FRANK DIMEO JR.	401	6099

7590                    03/25/2002

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EXAMINER

PHAM, HOA Q

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 03/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application N .	Applicant(s)
	09/442,568	DIMEO ET AL.
	Examiner Hoa Q. Pham	Art Unit 2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 10 January 2002.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 30-32 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 30-32 and 35-45 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on 10 January 2002 is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

1. With respect to the new figure 1B, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "17" and "12" have both been used to designate for "**the rare earth metal thin film**". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. **Applicant is noted that the arrow from reference number "10" should not connect to the light source (see figure 1A) and the arrow from reference number "17" should point to the heat generating element.**
  
2. With respect to the amendment filed on 1/10/02, 30-32 and 35-45 are pending.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 30-32, 35, 36, 40, and 44 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Ito et al (4,661,320).

As understood from the present specification, a light source can perform both functions, heating and lighting. Regarding claim 30; Ito et al discloses a light source (5), detector (6) and an optical barrier (1) there between, wherein the optical barrier response to the presence of the hydrogen by responsively changing from a first optical state to a different second state to indicate the presence of hydrogen gas in the gaseous environment. See figure 1 and column 3, line 64 through column 4 line 13.

Regarding claims 31-32, Ito et al teaches that the light source is a light emitting diode (LED) (column 2 lines 58-59).

Regarding claim 35, see column 2, line 59 for photodiode.

Regarding claim 36, Ito et al teaches that protective film comprises a palladium film (column 3 lines 19-20).

Regarding claims 40 and 44, Ito et al teaches that the thin film is overlaid by palladium (Pd) , platinum (Pt), etc... (column 3 line 11).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 37-39, 41-43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al in view of Griessen et al (Journal of Alloys and Compounds, vol. 153-154 (1997)).

Regarding claims 37-39; Ito et al does not explicitly teach that the barrier comprises yttrium thin film, trivalent rare earth metals, etc...; however, such a feature is known in the art as taught by Griessen et al. Griessen et al (of record) teaches that the hydrogen can be determined on the switchable optical properties of Yttrium and lanthanum hydride films. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the barrier of Ito et al by an Yttrium and lanthanum hydride films of Griessen et al for the same purpose of determining the presence of hydrogen gas in a gaseous environment.

Regarding claims 41-43, and 45; it is well known in the art that a hydrogen-pereable material is doped with a dopant such as Mg, Al, Ca, etc... to form a rare earth metal device. In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a multiplicity of hydrogen gas detectors if plurality of regions are detected.

### ***Response to Arguments***

7. Applicant's arguments filed 10/16/01 and 1/10/02 have been fully considered but they are not persuasive.

- a. The drawings filed on 1/10/02 does not raise new matter, however, the "arrows" from the reference numeral "10" and "17" are incorrect as mentioned above.
- b. Applicant 's remarks do not response to the rejection under 35 U.S.C 102 as being anticipated by Ito et al. Thus, the rejection is stand.

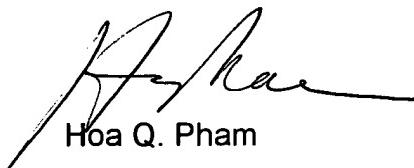
c. Applicant 's remarks, page 4, stated "it is inappropriate to combine Ito and Griessen. Therefore, the applicant request these rejections be withdrawn". However, applicant gave no reason why it is in appropriate to combine the references. Thus, the argument is not deemed to be persuasive.

In view of the foregoing, it is believed that the rejections under 35 U.S.C 102 and 103 are proper.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (703) 308-4808. The examiner can normally be reached on 6:30 AM to 5 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoa Q. Pham  
Primary Examiner  
Art Unit 2877

Pham/hp  
March 21, 2002